

CLAIMS

1. A coating liquid comprising:
a solvent; and
5 first and second organic molecules that have been dissolved in the solvent,
wherein the first organic molecule is a semiconductor material or a precursor of a semiconductor material,
the second organic molecule is an insulator material or a precursor of
10 an insulator material, and
the first organic molecule and the second organic molecule are not compatible with each other.
2. The coating liquid according to claim 1, wherein one of the first
15 organic molecule and the second organic molecule comprises at least one group selected from a hydrocarbon group and a fluorocarbon group, while the other comprises at least one polar group.
3. The coating liquid according to claim 2, wherein the one of the first
20 organic molecule and the second organic molecule comprises no polar group.
4. The coating liquid according to claim 2, wherein the polar group is at least one selected from the group consisting of a hydroxyl group, a carboxyl group, and an amino group.
- 25 5. The coating liquid according to claim 1, wherein one of the first organic molecule and the second organic molecule includes a hydrocarbon group but does not include a fluorocarbon group, while the other includes a fluorocarbon group.
- 30 6. The coating liquid according to claim 1, wherein the first organic molecule is a polythiophene derivative.
7. The coating liquid according to claim 6, wherein the second organic
35 molecule is polystyrene.
8. The coating liquid according to claim 1, wherein the first organic

molecule is a pentacene derivative.

9. The coating liquid according to claim 8, wherein the second organic molecule is polystyrene.

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10. A method of manufacturing a field effect transistor including an organic semiconductor layer and an organic insulating layer that adjoins the organic semiconductor layer, the method comprising the steps of:

- (i) applying a coating liquid including a solvent as well as first and second organic molecules that have been dissolved in the solvent; and
10 (ii) forming a first layer and a second layer by removing the solvent contained in the coating liquid that has been applied, the first layer containing the first organic molecule as its main component, and the second layer adjoining the first layer and containing the second organic molecule as
15 its main component,

wherein the first organic molecule is a semiconductor material or a precursor of a semiconductor material,

the second organic molecule is an insulator material or a precursor of an insulator material, and

- 20 the first organic molecule and the second organic molecule are not compatible with each other.

11. The manufacturing method according to claim 10, further comprising converting the first layer into an organic semiconductor layer by treating the
25 first organic molecule contained in the first layer,

wherein the first organic molecule is a precursor of a semiconductor material.

12. A field effect transistor manufactured by a manufacturing method
30 according to claim 10.

13. A field effect transistor comprising an organic semiconductor layer and an organic insulating layer that adjoins the organic semiconductor layer, wherein the organic semiconductor layer is a layer containing, as its
35 main component, a first organic molecule that is a semiconductor material, the organic insulating layer is a layer containing, as its main component, a second organic molecule that is an insulator material,

the proportion of the first organic molecule decreases gradually from an interface between the organic semiconductor layer and the organic insulating layer toward an outer-side surface of the organic insulating layer,

- the proportion of the second organic molecule decreases gradually
5 from the interface between the organic semiconductor layer and the organic insulating layer toward an outer-side surface of the organic semiconductor layer, and

the first organic molecule and the second organic molecule are not compatible with each other.